

### **REMARKS**

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks. Applicants kindly thank the Examiner for holding a telephonic interview with Applicant's representative. The Examiner's kind suggestions have been incorporated herein.

Claims 12-22 were pending in this application when last examined.

Claims 12-16 were examined on the merits and stand rejected.

Claims 17-22 were withdrawn as non-elected subject matter.

Claim 23 is newly added. Support can be found on page 10 of the specification.

No new matter has been added.

On pages 2-9 of the Office Action, claims 12-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Moriya (1993) (of record) in view of Zarlring et al. (US2004/0019916) (of record). Applicants respectfully traverse this rejection as applied to the pending and new claims.

The Examiner states that Moriya teaches an *in vitro* base conversion method for a DNA sequence, since its title relates to "targeted base conversion in simian kidney cells". Further, the Examiner points out the section "neo Transformation of COS ts2 with ss pMS2 (8-oxodG)" (on page 1124), and states that the neo gene is the target DNA sequence in COS cell. This is incorrect.

In one experiment in Moriya, the neo gene is inserted in a single-stranded circular phagemid DNA (ss pMS2), which contains a single 8-oxodG outside of the neo gene. This is the ss pMS2 (8-oxodG). The neo gene exerts its function (neomycin-resistance) when the single-stranded DNA replicates and forms a double-stranded DNA in COS ts2 cells. Here the 8-oxodG is an abnormal base. Moriya examines whether single-stranded phagemid DNA replicates even if an abnormal abase is present. Please note that the neo gene is a selection marker for replication, not a target gene for a base conversion. Thus, this teaching of Moriya fails to teach or suggest the claimed invention, which specifically recites conversion of a target sequence.

In another experiment in Moriya, the single-stranded phagemid DNA containing dG (ss pMS2 (dG)) and 8-oxodG (ss pMS2 (8-oxodG)) were introduced into COS-7 cells, in which ss pMS2 (dG) and ss pMS2 (8-oxodG) replicate and form double-stranded DNA. During normal replication, the counterpart of dG is C in double-stranded DNA. On the other hand, the counter

part of 8-oxodG is changed to T during replication. Thus, 8-oxodG induces G-C .....T·A transversions. This is the title of Moriya. This is not the same as the target gene conversion of the claimed invention.

Thus, in Moriya, a base conversion is an event during replication from a single-stranded phagemid DNA into a double-stranded DNA in cells. On the other hand, the claimed invention converts base(s) of a target DNA in cells by introducing a single-stranded DNA fragment into the cells.

Finally, with regard to new claim 23, it is noted that the cited art fails to teach or suggest converting genomic or mitochondrial DNA.

Thus, for the above-noted reasons, this rejection is untenable and should be withdrawn.

In view of the foregoing amendments and remarks, the present application is in condition for allowance and early notice to that effect is hereby requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

Respectfully submitted,

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